CLAIMS

1. A method of build up welding to a thin-walled portion of a workpiece, comprising;

a jig-mounting step (A) for installing a jig to the thin-walled portion of the workpiece to form a recess, wherein the jig is manufactured from a material with a higher heat-resisting temperature than the heat-resisting temperature of the molten metal and a satisfactorily large heat capacity, and the recess is to store the molten metal in a surfaced portion in the vicinity of the thin-walled portion of the workpiece,

a preheating step (B) for preheating the workpiece and the jig to a predetermined temperature under the condition with the jig installed,

a build up welding step (C) for continually build up welding to the thin-walled portion of the workpiece and forming weld beads on a surfaced portion, and

a jig-removing step (D) for removing the jig after the weld beads solidify completely.

2. The method of build up welding the thin-walled portion of a workpiece, specified in Claim 1, wherein the jig manufactured from the material with a satisfactorily large heat capacity comprises a ceramic jig.

3. The method of build up welding to the thin-walled portion of a workpiece, specified in Claim 1, wherein the

jig manufactured from the material with a satisfactorily large heat capacity has a satisfactorily large heat capacity to reduce the cooling rate at the thin-walled portion after the build up welding process.

4. The method of build up welding to the thin-walled portion of a workpiece, specified in Claim 1, wherein the jig manufactured from the material with a satisfactorily large heat capacity comprises a plurality of closely fitting segments shaped to make close contact with the thin-walled portion of the workpiece, and an outer-frame segment that encloses and holds the plurality of the closely fitting segments in an integrated manner.

5. The method of build up welding to the thin-walled portion of a workpiece, specified in Claim 1, wherein the material of the workpiece is a TiAl alloy.

6. The method of build up welding the thin-walled portion of a workpiece, specified in Claim 1, wherein the thin-walled portion of the workpiece is the tip of a turbine blade.